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The second Paper read was:—

2. *On Mounts Everest and Deodanga.* By Lieutenant-Colonel ANDREW SCOTT WAUGH, F.R.G.S., &c., (*Gold Medallist, R.G.S.*)

Communicated by Col. W. H. SYKES, M.P., V.P.R.G.S., &c.

Surveyor-General's Field Office, Dhera Dhún,
5th August, 1857.

MY DEAR THUILIER,—In my letter No. 29, of 1st March, 1856, communicating the results of our calculations for the position and height of No. XV. in my list of Himalayan peaks, I stated my reasons for deciding to call this peak “Mount Everest.”

At the August meeting, last year, of the Asiatic Society of Bengal, you were good enough to communicate the results regarding “Mount Everest” in an interesting address delivered by yourself. The facts having been thus promulgated, Mr. Hodgson endeavoured, in the Journal of the Asiatic Society, to establish the identity of Mount Everest with Deodanga, &c. The arguments adduced for this purpose were so palpably conjectural, resting on hearsay evidence alone, that I thought it needless to refute them, as their fallacious character was apparent to any person competent to understand the subject. The true geographical latitude and longitude of Deodanga are unknown to Mr. Hodgson, or even its true bearing and distance from any locality which can be recognised as a fixed point of departure. Its height also is unknown. All these data are elements necessary to the identification of that mountain. The physiognomical contour of a mountain is a very uncertain test, because it changes with every mutation of aspect; but even this test is wanting in Mr. Hodgson’s case, as he has never seen Deodanga.

In April last my attention was drawn to another communication made by Mr. Hodgson to the Asiatic Society, from which it appears that he has taken steps to put the subject in what appears to me a very unfair light before the Royal Asiatic Society, as well as to have his conclusions on a point of great ambiguity promulgated as certainties in journals of extensive circulation: under these circumstances I considered that it would be satisfactory to scientific men that the grounds on which the supposed identity of Deodanga was made to rest should be examined and discussed. In my judgment the only proper way of doing this is to lay the whole of the documentary materials before a Geographical Committee composed of geometricians of experience and capacity, competent to deal with such investigations; with this view I issued the Departmental Orders annexed.

Of the five officers to whom this duty was assigned, four have now delivered their reports; the fifth, Lieutenant Montgomerie of the Engineers, is at present difficult to communicate with, being absent

in Thibet conducting the General Trigonometrical Survey operations beyond Kashmir. That officer's opinion will be very valuable, and (D. V.) shall be transmitted hereafter; in the mean time, encompassed as we are by the confusion and embarrassments attending a military rebellion of unprecedented magnitude, I am unwilling to delay the transmission of the four reports hereto annexed; these are so ably argued, and place the subject in so luminous a point of view, that it is unnecessary for me to add more than a few words in this place.

Mr. Hodgson labours under a strong conviction that Mount Everest is identical with Deodanga; and the ingenuity with which he advocates his view of the question seems to have carried the same conviction to the minds of others not conversant with the facts. It is easy to see how this fallacy originated in his mind. The Sketch Map published by him in the Journal of the Asiatic Society, December 1848, gives his idea of the configuration of that part of the Himalayas; a more erroneous impression of the formation of the country was never formed; he represents a solitary mountain occupying a vast tract. If this unity really existed, the identity of Mount Everest and Deodanga would indeed be indisputable, as it would rest in the fact of there being only one mountain within a given space; this single mountain, however, is entirely imaginary. The range presents the appearance of a "sierra" with innumerable peaks and groups of peaks. Among these nine have been fixed by the General Trigonometrical Survey of India, and are marked XII to XXI in the chart accompanying Mr. Scott's report. Besides these nine, several others are more or less partially visible, which we were unable to identify; and those who have any experience in conducting geodetical operations in the Himalayas can harbour no doubt that many other peaks do exist which have been concealed from our view by intermediate ranges. It is well known to surveyors that among a number of peaks having various altitudes and distances, the highest point in appearance is not always the highest in reality, the ocular deception being caused by the increment in the earth's curvature and decrement in the subtended angle caused by distance.

The erroneous idea Mr. Hodgson has formed of the configuration of this mountain range is sufficiently proved by his sketch map already referred to. If further proof were necessary, it may be derived from the statement Mr. Hodgson has given of the opinion he communicated to me when I returned from the expedition I made into Sikim in 1847. Having mentioned to him that I had seen from the confines of that province an enormous snow-mass lying in a north-westerly direction from Tonglo, he immediately pronounced it to be "Deodanga." Now the mountain I then saw was not Mount. Everest, but No. XIII, which Major Sherwill has so well described

in the Asiatic Journal. Thus Mr. Hodgson has attributed the same name to No. XIII and to No. XV, without any exact knowledge of the height or position of either. He has fallen into this mistake from adopting the erroneous conception that there is only a single mountain in all this wide space.

Mr. Hodgson proves no more than that there is, according to native report, a mountain called Deodanga somewhere between our Nos. XI and XXI (vide chart). That mountain may be one of the peaks fixed by us, or it may be one that we failed to fix, or it may not have been visible to us at all. If Deodanga is to be taken as the highest peak, that allegation only rests on the hearsay evidence of natives unable to determine the actual height of a mountain; and if it be a true guess on their part, it by no means establishes the identity of Deodanga, because we do not know for certain that Mount Everest is the highest culminating point; all we do know is, that it is the highest point we have measured.

The only satisfactory way in which the position of Deodanga can be determined is by carrying up a series of triangles towards it until it can be seen and identified; operations of this kind are impracticable at present for political reasons. In the mean time the position and height of Deodanga constitute a geographical problem remaining to be solved. If it is not identical with Mount Everest, a very grave blunder would be committed by assigning its name to another peak; if it is identical, no harm will have been done by the adoption of another cognomen pending the doubt now existing.

Great stress has been laid in some quarters on the fact that the position of Deodanga is given in German Maps; now this proves no more than that German geographers are rash enough to lay down anything upon hearsay; for we know beyond all question that no competent European with adequate means has ever been in the vicinity of Deodanga so as to be able to fix it. Deodanga does not appear in English maps, because it would be inconsistent with the rigorous notions which prevail among English scientific men in general to pretend to give the position of a point on the earth's surface on hearsay evidence. It would violate every principle of accuracy and precision laid down by my predecessor for the conduct of the Trigonometrical Survey of India to jump at conclusions in this reckless manner.

As the principle of adopting an European name has been much commented upon, I will here add without further remark paragraphs 6 and 7 of my letter to your address cited at the commencement of this letter.

"I was taught by my respected chief and predecessor, Colonel George Everest, to assign to every geographical object its true local

or native appellation, and I have always scrupulously adhered to this rule, as I have in fact to all other principles laid down by that eminent geodist.

"But here is a mountain, most probably the highest in the world, without any local name that we can discover, whose native appellation, if it has any, will not very likely be ascertained until we are allowed to penetrate into Nepal."

In conclusion, as the Asiatic Society has inserted in its Journal papers tending to mislead in regard to the identity of Deodanga and Mount Everest, I trust that they will give prominence to this discussion, which proves that the fact is not only doubtful, but far from probable, if the particulars supplied by Mr. Hodgson are correct so far as they go. Considering it a matter of importance that geographers should be enabled to form their own opinion on the subject, I request you will communicate this correspondence with its annexures to the Asiatic Society, retaining a copy for record.

I remain, my dear THUILIER,

Your affectionate friend,

(Signed) A. S. WAUGH.

P.S. You will perceive the gist of the question is not whether the mountain should be called Mount Everest or by its true native name (which is a principle not disputed by any one), but whether it can be called Deodanga without risk of error, in the absence of satisfactory proof that this is really its native name.

No. 10,267.—DEPARTMENT ORDERS.

Surveyor-General's Field Office, Dhera Dhún,
22nd April, 1857.

THE attention of the Surveyor-General of India having been drawn to the Proceedings of the Asiatic Society (as marginally cited),* it appears to him desirable that the question which has been raised as

* From Mr. B. H. Hodgson, submitting for the information of the Society and the public in general the following extract of a letter from the Secretary to the Royal Asiatic Society, in reference to the mountain "Deodanga" ("Mount Everest") of Colonel Waugh :—

"Your letter of the 27th October, together with your observation on the incongruity of assigning a European name to Indian localities already provided with native appellations, was received and read at our last meeting of the 17th inst.; and I have the pleasure to inform you that the members present unanimously expressed their concurrence with your view of the case.

"A notice of the paper was communicated to the Athenaeum and Literary Gazette, and has appeared already in full in the latter journal. I have, &c.,

(Signed) "EDWARD NORRIS, Sec. Royal A.S.

"To B. H. Hodgson, Esq."

respects the identity of "Mount Everest" with "Deodanga" should be examined by a competent Geographical Committee in order to set that point at rest.

The Surveyor-General has carefully examined all that Mr. B. H. Hodgson has advanced in support of the identity of Mount Everest with Deodanga, and has formed his own opinion on the subject; but he thinks it will be desirable that the question should also be formally investigated by a committee, and the opinion thereof placed on record for general satisfaction.

The Committee will be composed as follows:—

Lieut. TENNANT, Engineers, 1st Assistant G. T. Survey. In charge Jogi
Tila Series.

Lieut. MONTGOMERIE, Engineers, 1st Assistant G. T. Survey. In charge
Kashmir Series.

J. HENNESSEY, Esq., 2nd Assistant. In charge of Geodetic Computations
at Trigonometrical Survey, Head Quarters.

W. SCOTT, Esq., Chief Draughtsman in the Field Surveyor-General's
Office.

J. W. ARMSTRONG, Esq., Civil Assistant G. T. Survey, &c.

The papers connected with Mount Everest, and Mr. Hodgson's alleged identification thereof with Deodanga, are at present under charge of Mr. W. Scott, who has spent a quarter of a century in unravelling more intricate geographical problems than this. Mr. Scott will form his own independent opinion and submit the same to the Surveyor-General, after which he will forward the papers to Mr. Hennessey.

Mr. Hennessey has been engaged on all the computations for determining the positions and heights of the principal peaks of the Himalaya range, including Mount Everest, and is well acquainted with investigations of this kind. He also saw Mount Everest when he was engaged on the north-east longitudinal series. After submitting his independent opinion to the Surveyor-General, he will forward the papers to Mr. J. W. Armstrong.

Mr. Armstrong is one of the gentlemen by whom Mount Everest was observed. He will forward his opinion to the Surveyor-General, and the papers to Lieutenant Tennant, by whom they will be independently received, thus giving the investigation the benefit of his eminent abilities in matters of difficult research.

From Lieutenant Tennant the papers will proceed to Lieutenant Montgomerie in Kashmir, whose recent experience in details of Himalayan geography will enable him to pronounce on this question a valuable independent opinion, which he will transmit with all the papers to the Surveyor-General.

(Signed) A. S. WAUGH, Lieutenant-Colonel,
Surveyor-General of India.

Memorandum by MR. W. H. SCOTT, Chief Draughtsman in the Field Surveyor-General's Office.

WITH reference to Department Orders No. 10,267, dated 22nd April, 1857, in which I am called upon to state my independent opinion on the identity of Mount Everest with Deodanga or Bhairavathan, I beg leave to report, for the information of the Surveyor-General of India, as follows:—

After a very careful examination of the papers specified in the margin,* I am humbly of opinion that there is no evidence to establish satisfactorily the identity of Mount Everest with Deodanga or Bhairavathan.

The routes of the two Nepalese embassies, from Katmandu to Pekin, no doubt contain much interesting detail; but unfortunately they do not assist us in the present investigation, because the azimuths or bearings, it will be seen, are not given, and consequently we can bring them to no account. It is essentially necessary that the position of Kutighat, or Bhairava Langur, should be known with some degree of certainty; but this we are unable to do by the aid of the papers in question, as will be apparent to all familiar with the subject. All the maps I have consulted only tend, in my humble opinion, to confuse and mislead: for instance, the direct distance of Kuti from Katmandu, according to Kirkpatrick's map, is only 48 miles, 88° N.E.; Walker's engraved map gives 63·6 miles, N. 60° E.; Parbury and Allen's, 60 miles, N. 55° E.; according to Crawford, 75 miles, 75° N.E.; Arrowsmith's map, 56·6 miles, N. 78° E.; according to the preliminary sketch map, compiled at the Surveyor-General's Office, Calcutta, 72·6 miles, N. 53° E.; according to the route of Kaji Dalbanjan Pande the distance is 101·5 miles. The Chountra omits Kuti altogether. Amidst these conflicting values it is of course impossible to arrive at any satisfactory conclusion. The following extract from a letter from Major Ramsay, Resident of Nepal, to Major Thuillier, regarding the compilation map of that country, dated 11th June, 1855, will serve to convey an idea of the conjectural materials and discordant elements we have to deal with:—" You are doubtless aware that no European has ever travelled in the interior of this country, and that

* Mr. Hodgson's letter on the Native Name of Mount Everest, J. A. S., No. 5, 1856. The papers referred to in that communication, and published in J. A. S. No. 6, 1856, are,—1st. Route of two Nepalese Embassies to Pekin, with Remarks on the Waterparting and Plateau of Thibet. 2nd. Systematic Summary of the Route from Katmandu to Pekin, by Kaji Dalbanjan Pande, 1822-23. 3rd. Abstract of Diary from Katmandu to Pekin, by Chountra Pushiker Shah, 1817. 4th. Memorandum on the Seven Cosis, with Sketch Map, J. A. S., 1848.

all the information we possess of it is derived from the reports of persons who are totally devoid of scientific knowledge, and are accustomed in their comparisons of distances to trust to vague estimates formed by parties who have travelled through the different districts."

With respect to the sketch map it will be seen that Mr. Hodgson gives only one isolated peak, segregated from all the rest, whereas nothing can be more contrary to the fact as regards the Himalayas; besides, the configuration of the ground must be very different from that represented by Mr. Hodgson, being in fact difficult in the extreme. There is, however, no evidence to show that Mount Everest and Deodanga are identical. Mr. Hodgson says, "The Bhutia Cosi has its sources at Deodanga, a vast Himalayan peak, situated some 60 or 70 miles east of Gosainthan, *and a little north and east of the Kuti Pass, being probably the nameless peak,* which Colonel Waugh conjectures may rival Kanchanjinga in height.* The river flows from the base of Deodanga, past the town of Kuti, and has a south-west direction from Kuti to Dallalghat."—*Vide 'Memorandum on the Seven Cosis.'*

Now, on comparing Mr. Hodgson's sketch with the accompanying chart, which exhibits all our peaks laid down between Katmandu and Darjiling, it will be seen that it is not likely the Bhutia Cosi could have its sources at our Mount Everest, because it appears to me, as far as I can judge, that the Dud Cosi, which rises "amid the perpetual snows," and also the Arun Cosi, would be to the left and right of Mount Everest respectively, so that it does not seem clear how the Bhutia Cosi can originate from our Mount Everest.

Again, Mr. Hodgson says—"This great mass is visible alike from the confines of Nepal proper (the valley), and from those of Sikkim, and all the more unmistakeably because it has no competitor for notice in the whole intervening space. It is precisely half way between Gosainthan, which overlooks Nepal proper, and Kanchang, which overlooks Sikkim." Now, a slight computation will serve to show that Mount Everest is invisible from the valley, being depressed nearly one minute and thirty seconds below XVIII. The most conspicuous mass visible from Katmandu or the valley would be our peaks XIX. and XX. Nor is Mount Everest visible from the confines of Sikkim, as Major Sherwill did not see it anywhere on his route from Singelalah to Kanglanamo; the height of the latter place Major Sherwill estimates to be 13,000 feet. He says, "One mountain in the Nepal range is a most remarkable object, both for

* The words underlined by me are omitted in Mr. Hodgson's communication on the Native Name of Mount Everest, J. A. S., No. 5, 1856.

its curious shape and for its immense height: its name none of my party knew, nor have I yet succeeded in obtaining the name. The peak is a hollow crater-like mountain, probably 27,000 feet in height, with a long table mountain attached to it, both covered with glaciers. To the west of this great mountain are fine distinct peaks separating the large mountain from a hollow shell-like and perpendicular mountain about 26,000 feet in height."—('Notes upon a Tour in the Sikkim Himalaya Mountains,' J. A. S., No. 8, 1853.) The mountain herein alluded to is our XIII., the height of which is 27,779 feet, Mount Everest being depressed nearly 14 minutes below XIII.

From the foregoing I am led to infer that Mr. Hodgson has probably mistaken one peak for another, more especially since the country is said to be very polyglottic; in fact, Mr. Hodgson himself throws some doubt on the identity of Mount Everest with Deodanga, or Bhairavathan, or Bhairava Langur, or Gnalthamthangla, as his own expression, "being *probably* the nameless peak which Colonel Waugh conjectures may rival Kanchanjinga in height," evidently shows. The following extract from an interesting account of the ascent of the mountain Sumeru Parbut by Captain Robertson, given in the Report of the British Association for the Advancement of Science for 1855, will serve to show how liable we are to fall into mistakes in identifying a group of peaks even when in their immediate neighbourhood:—"On the right of the glacier rose the three great Jumnotri peaks, designated in sheet 65 of the Trigonometrical Survey of India, black E, great E, and little E, the altitudes of which as given in map are 21,155, 20,916, and 20,122 feet. The peaks designated in the Trigonometrical Survey great E and little E, are the two summits of a mountain which the natives call Bunderpunch. On the left the glacier was bounded by a wall of precipices, terminating in the lofty snow-covered peak of Sumeru Parbut. The height of this peak is not given in the survey map, but from its appearance, as compared with that of the measured peaks, and also from the height it rises above the limits of perpetual snow, I should estimate its altitude at about 18,000 feet. The altitude of Bunderpunch-ke-ghattee I estimated at about 16,000 feet.

"In making my agreement with the Brahmin I was under the impression that Sumeru Parbut was one of the measured peaks, and it was not until I reached Bunderpunch-ke-ghattee that I discovered my mistake."

W. H. SCOTT,
Draughtsman, Surveyor-General's Field Office.

Memorandum by J. HENNESSEY, Esq., Second Assistant in charge of Geodetic Computations at Trigonometrical Survey, Head-Quarters.

I HAVE carefully perused Mr. B. H. Hodgson's paper attempting to identify Mount Everest with some hill variously called "Deodanga, vel Bhairavathan, vel Bhairavlangur, vel Gnalthamthangla."

I am of opinion that Mr. Hodgson has advanced no evidence whatever to prove this identity.

The arguments stated, if indicating any one peak more than another, point to Peak XVIII. as the one called Deoadhangha, &c.

Thus, Mr. Hodgson, speaking of Deodanga, says, "It is a great mass. . . . It is visible from the confines of Nepal (proper)."

Now the straight line passing through Mount Everest and XVIII. and extended towards Nepal, passes nearly through the centre of that valley, nor is there any point in the latter at which the angle Mount Everest and XVIII. exceeds 3° . Taking any point on the straight line, Mount Everest, XVIII., and valley, and within the valley, the latter peak shuts out the former, as can be demonstrated by calculation. It is also exceedingly improbable that the same does not occur from *any* point whatever in the valley; but, be this as it may, it is impossible, under the circumstance, that XVIII. would admit of a "great mass" of Mount Everest being seen.

And yet that Deodanga, &c., is *seen* from the "confines" of the valley, and that it is "a great mass," we have Mr. Hodgson's evidence to show. That gentleman has therefore demonstrated, at least, that Mount Everest and Deodanga are *not* identical.

I have seen Mount Everest, certainly, from near Titalyah in Purneah, very probably from other districts along the Terai. It never struck me as a great mass.

J. B. N. HENNESSEY, Second Assistant General
Trigonometrical Survey of India.

Memorandum by J. W. ARMSTRONG, Esq., Civil Assistant General Trigonometrical Survey of India.

IN compliance with Department Orders No. 10,267, by the Surveyor-General of India, under date the 22nd April, 1857, I beg leave to submit the following remarks on the question which has been mooted regarding the identity of Mount Everest with Deodanga vel Bhairavathan.

This lofty pinnacle of the Himalayas was observed by me in 1846 from a distance of above 200 miles, and by Colonel Waugh

and Messrs. Lane and Nicolson from different stations of the north-east longitudinal series, and characterised by each according to the nomenclature which each had adopted. When the observations were all collected, and the snow points discussed and arranged in order from east to west, this lofty peak was characterised by the numeral XV. There were no means of ascertaining either the name of this mountain or the names of the others which were observed ; and when its stupendous height was finally determined, a name was sought for to stamp its greatness, and none presented itself in the absence of its own local appellation more fitting than that of our renowned ex-Surveyor-General.

This nomination has been impugned by Mr. Hodgson on the strength of certain data advanced by him in the Journals of the Asiatic Society of Bengal—data which cannot be received as conclusive because they are purely conjectural.

The first datum is a *conjectural bearing and distance from positions never visited.*

The other data are the itineraries of two Nepalese embassies to Pekin, the distances of whose routes are equally conjectural. Mountainous as these routes must have been, and tortuous from the nature of the country, the distances noted as traversed must have been calculated, not so much by linear measure as by the difficulties encountered and the delays entailed.

Independent of these objections, this lofty snow peak is neither visible from the valley of Nepal, on account of an intervening though lower snow mount, nor even from the confines of Sikkim, for a similar reason ; and, great as Mr. Hodgson's knowledge of the mountainous region of Nepal may be, his authority on the question at issue can be received only with diffidence, because it is enunciated without personal observation, and based upon the vague information of untrained travellers.

J. W. ARMSTRONG,
Civil Assistant General Trigonometrical Survey.

Memorandum by Lieut. J. F. TENNANT, Engineers, First Assistant General Trigonometrical Survey, in charge Jogi Tila Series.

DURING the identification of Colonel Crawford's peaks, and the discussion of the identity of Mount Everest with Deodanga, I have paid a good deal of attention to the question.

There are no means of knowing the position of Deodanga beyond what are given by Mr. Hodgson. These consist,—1st, of an Itine-

rary by the two Nepalese embassies to Pekin ; and, 2nd, of a paper on the Seven Cosis ; 3rd, several assertions, for which no evidence is produced, in a letter to the Secretary of the Asiatic Society of Bengal.

As regards the first, or the Itineraries, I believe no person who has had any surveying experience can doubt their being absolutely useless as evidence of anything but the existence of a pass called Bhairava Langur. Mr. Hodgson supplies the information that it is identical in name with the adjacent mountain, which is, I conclude, derived from information. It is absolutely necessary, for using a route survey, that both bearings and linear distances should be given : the former in these routes are totally deficient ; the latter are given along the road, which in mountainous countries would only be useful had nature so formed the passes that they should all lie in a straight line, and be reached one from another by a nearly level straight line. The document in question bears evidence that this is not the case by the route distances (117 miles). Mount Everest is far within Bhairava Langur, and this assumes the identity of their directions. If the Itinerary is competent to determine the position of Bhairava Langur, it is equally so to determine that of Pekin, and Mr. Hodgson would do geometers a service by explaining the process.

In a note to page 478 of No. VI. of the Journal of the Asiatic Society of Bengal, Mr. Hodgson says that Bhairava Langur is visible from the confines of Nepal (proper) as a great mass. Now, it is demonstrable that the summit of Mount Everest is *not* visible from Katmandu or any part of the valley of Nepal as a conspicuous or recognisable prominence, if indeed it at all tops the intervening snowy range. Mr. Hodgson also asserts that it is visible from the frontiers of Sikkim. It certainly is not visible from Kanglanamo, 13,000 feet high, being shut out by the shoulder of our Peak XIII. ; and it is evident that the same result will be true all along the Singalilah range as far as Tonglo. I know that Mr. Hodgson asserts that it has no competitor for notice, but sound geometry contradicts Mr. Hodgson ; and I for one prefer the evidence it gives to any that may be derived from the fallible rendering of fallible informants.

Mr. Hodgson further undertakes to find the name of any object whose bearing and distance he has. It may be possible in some cases, and possibly Dewalaghiri is one. I can only say, having surveyed myself among hills, that nothing is more fallacious than names given from a distance, even when an object is conspicuously visible. I myself believe that there is an identity between the mountains to which Captain Webb and the General Trigonometrical

surveyors have assigned the name of Dewalaghiri, but far be it from me to assert that that is its veritable name.

Mr. Hodgson is not probably less fallible than his predecessors, and yet Colonel Crawford places Dhayabang east of the meridian of Katmandu, nearly in the position of our Peak XXV., whereas another authority (Kirkpatrick) places it far west of that meridian; and here it is quite evident that the same name would not be assigned to the same peak. That Mr. Hodgson can get a name to any peak I believe; but that it will be the true name I do not believe, as a general rule.

2nd. Mr. Hodgson gives a Memorandum on the Seven Cosis, with a sketch. The sketch has no scale, and is confessedly a roughly-drawn document not founded on survey. It can, therefore, hardly be admitted as evidence of anything, but I shall show reason to doubt its being in Mr. Hodgson's favour.

Mr. Hodgson in the paper asserts,—1st, that there is a mountain called Bhairava Langur, or Deodanga; 2nd, that that mountain is the source of the Bhutia Cosi; 3rd, that it is the same as Mount Everest of Colonel Waugh; 4th, that Mount Everest is in the place of the source of the Bhutia Cosi.

I have said there is presumptive evidence of the first assertion.

The second assertion rests solely on information which is not very reliable (as far as the experience of accurate surveyors goes) at the best; and is peculiarly liable to error in this case, as the Bhutia Cosi is only one of several confluent streams, and has never been seen, as far as I learn, in its separate form by any European; consequently its course must be liable to great error.

Mount Everest is stated to be identical with the source of the river, as the occupant of the same position; but, if this position be untrustworthy, there is an end of this, and consequently the proposition that both, being sources of the same river, are the same, falls to the ground.

The real result is from this paper that,—1st, there is a mountain called Deodanga the source of a river; 2nd, that a stream called the Bhutia Cosi comes from a snowy mountain; 3rd, that the coincidence of these two mountains is, to say the best, subject to doubt; and 4th, that there is no evidence to show the latitude, longitude, and height of Deodanga and Mount Everest to be identical at all.

If the sketch map be a true representation of the courses of the streams given, I believe Mr. Hodgson will be puzzled to find room for his other Cosis, giving each the feeding area necessary for its size.

If the mountain Deodanga be a little north and east of the Kuti Pass, unless that has been grossly misplaced by all the geographers who have exercised their talents on it, Deodanga is *not* Mount Everest.

I am aware that Mr. Hodgson says he has "explained the identity to the Society;" but I see no evidence to satisfy a geographer; and, were any evidence wanting to show a prejudgment of the case, we have his own letter, from which I quote as follows:—"A few words more may be given to the last point, as being the matter which chiefly forced my attention, as a political officer in Nepal, on the site of Mount Everest, and enabled me in after years, when I heard surmises (from, I think, Colonel Waugh himself, or from some of his subordinates) of the great height of a peak in that direction, to fix on Deodanga or Bhairavathan (both names are used) as being the enormous snow mass in question, and I have often of late repeated this here very recently to Mr. Blandford." All which demonstrates that before Mount Everest was named, or its definite position fixed, Mr. Hodgson had committed himself by repeated assertions of the identity of the forthcoming highest peak and Bhairavathan—an admission in itself sufficient to render all his evidence valueless.

Having got this fixed idea, Mr. Hodgson next has collected data for Bhairavathan or Deodanga, indefinite in themselves, and which might apply to any mountain-peak within a considerable range, including Mount Everest of course. On only one of these, or rather on a class of them, I think further comment necessary. The position of Mount Everest is connected with that of Gosainthan as a known point, but I have shown that name is not an evidence of identity. Further, the position of Gosainthan given in the Physical Geography of the Himalayas is not that generally given even as regards Katmandu; and, thirdly, that the longitude of Katmandu itself is uncertain to a small extent, and was so to a great amount till the identification of Colonel Crawford's peaks with ours reduced the limits, all which tells on the position of Deodanga.

On the whole, we have no evidence that Mr. Hodgson even saw Mount Everest, or that any one else ever recognised its pre-eminent height; for, contrary to Mr. Hodgson's repeated assumptions, it is demonstrably not a very conspicuous mass from a distance. There is a wide difference between the manner in which the known names have been given and that in which it is proposed to force this on us. All the points to which names have been given are laid down by competent surveyors under those names in most cases by some of the men who have fixed the final position. Deodanga has never

been so defined; and, even on Mr. Hodgson's showing, the names may be those of passes, or mountain masses, or particular prominences.

Mount Everest is the assigned name of a protuberance of no very large extent; and it would be most inadvisable, in my opinion, to abandon this definite name, which will soon be familiar to every English or European child, for one of the, to Europeans, unpronounceable names given by Mr. Hodgson, whose application is, to say the least, extremely doubtful, and whose misapplication would cause endless confusion.

J. F. TENNANT, Lieut. Engineers,
First Assistant General Trigonometrical Survey.

(True Copies.)

A. S. WAUGH, *Lieut.-Col., Surveyor-General
of India, and Superintendent of General
Trigonometrical Survey.*

The PRESIDENT.—We return thanks to Colonel Waugh and the officers under him for this valuable communication. I cannot conceive military engineers performing any duty more grateful to themselves than that of testifying to the merit of their former chief, by attaching the name of Everest to the highest mountain in the world.

NOTE TO MAP.—The longitudes are referable to the old value for the Madras Observatory, $80^{\circ} 17' 21''$, to which a correction of $3' 25''\cdot 5$ is applicable to reduce to the value adopted by the Admiralty, Lt. Raper, and the Royal Astronomical Society, or $3' 1''\cdot 8$ to reduce to the result of Taylor's observations up to 1845.

Heights brought up from the Sea level at the mouth of the Hoogly by trigonometrical levelling, and verified by extension of the operation of the Sea at Bombay and Karachi.

The Peaks marked A, B, C, &c., are identical with Colonel Crawford's Points, and are so characterized by him.

W. H. SCOTT,
Chief Draughtsman Surveyor-General's Field Office.

A. S. WAUGH, Lieut.-Col.,
Surveyor-General of India.

Map
To Illustrate Col. A. S. Waugh's Paper
on
MT EVEREST & DEODANGA.

Scale 32 Miles to an Inch.



